

## CLAIMS

1. Device for applying and heat-shrinking plastics labels, characterised in that it comprises a central body and an outer body, coaxially movable one within the other one by the action of an injector element, positioned in such a way to realise an interspace between said bodies, and shaped in such a way to receive a label to be applied, and to position the same about the outer surface of the same container, being provided means for introducing hot air into said interspace, so as to realise heat-shrinking of the label, being further provided means to bring the outer body back in the rest position, after having stopped the action on said injector element.

2. Device according to claim 1, characterised in that it is provided a base element, on which said central body is integrally coupled.

3. Device according to claim 1 or 2, characterised in that said central body has an essentially cylindrical shape, with an upper outward tapering, and innerly hollow, with the upper portion closed.

4. Device according to claim 3, characterised in that said hollow central body provides a series of rectangular openings, particularly four openings, radially provided on the outer surface of the cylindrical body, in its conical part, in correspondence of the upper edge.

5. Device according to claim 3 or 4, characterised in that grooves are obtained on the surface of the central body, preferably four grooves, said grooves being longitudinally oriented and having such a depth to cross the thickness of the wall.

6. Device according to one of the preceding claims, characterised in that said outer body is comprised of a substantially cylindrical tube having inner diameter larger than the outer diameter of said central body, said tube being coaxially mounted on the same central body, being it provided a thickening on the basis of the tube, realising a sealing ring.

7. Device according to claim 6, characterised in that said tube comprising the outer body has a plurality of appendices on the inner wall, preferably four appendices, in a number corresponding to

the number of said grooves of the central body, entering within the grooves and projecting within the inner wall of the central body.

8. Device according to one of the preceding claims, characterised in that said means to bring the outer body in the rest position are comprised of a spring.

9. Device according to one of the preceding claims 2 - 8, characterised in that said base has a parallelepiped shape with a through hole realised according to the vertical axis of the base - central body assembly and with dimensions sufficient to allow the passage of the injector body.

10. Device according to claim 9, characterised in that coupling between base and central body is obtained by welding, screwing and like.

11. Device according to one of the preceding claims, characterised in that said injector element is comprised of an outer substantially cylindrical tube, that can be easily inserted within the central body.

12. Device according to claim 11, characterised in that said injector element has vertical stroke, obtained by actuating means, e.g. a pneumatic cylinder.

13. Device according to claim 11 or 12, characterised in that said injector element is coupled to a flow generated by a heat source, such as an electric fan with heat-resistances, by a telescopic tube or by a steam conduct.

14. Device according to one of the preceding claims, characterised in that said device is provided on a carrousel rotating on a vertical or horizontal plane, on a band on a flat links chain, a mechanical system, etc.

15. Device according to one of the preceding claims, characterised in that there is provided a plurality of devices, acting contemporaneously and provided according to a configuration suitable to the manufacturing line.

16. Process for applying said labels, characterised in that it comprises the steps of :

- supplying the labels in correspondence of the interspace between the central body and the outer body;

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- bringing the device with the vertical axis of the container to be labelled by transportation systems;
- maintaining the device aligned with the container and the injector element during the label application and heat-shrinking step;
- operating the actuator realising the vertical stroke of the injector element, inserting the same within the device and moving the outer body, in such a way to bring also the label in position about the container;
- actuating the heat source connected to the injector element, thus heat-shrinking the label on the container;
- removing the outer body about the labelled container.